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10/038,451	01/03/2002	Masaya Okita	Soyu C4B	8378

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EXAMINER

KUMAR, SRILAKSHMI K

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

The following office action is in response to the request for reconsideration, filed on May 18, 2009. Claims 38-41 are pending. There are no amendments or cancellation of claims.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (US 4,795,239) in view of Majima (US 4,938,570).

As to independent claims 38 and 40, Yamashita et al teach a method for driving liquid crystal for a liquid crystal display (11) device having a liquid crystal panel sandwiching liquid crystal between two electrodes that are disposed between two polarizing plates (col. 1, lines 6-11), comprising: applying a voltage (voltage S1'-Sm') corresponding to image data (COM') between the two electrodes and thereby depicting an image on the liquid crystal panel (Fig.1); and applying an appropriate voltage (VITO, a constant voltage) between the two electrodes.

Yamashita et al do not explicitly state where the liquid crystal used in the display is a nematic liquid crystal. It is well known in the art that the liquid crystal is nematic as is the most common. Further, Majima teach using nematic liquid crystal in col. 4, lines 44-45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a nematic liquid crystal as taught by Majima into the LCD system of Yamashita et al in

order for proper excitation of the liquid crystal, and where nematic liquid crystal is advantageous as it has the optical properties of a uniaxial crystal.

Yamashita et al do not teach where the appropriate voltage is applied in each frame period, and thereby erasing the image depicted on the liquid crystal panel within the same frame period. Majima teach the application of an appropriate voltage in each frame period in col. 2, lines 49-68, and col. 5, lines 43-52. Majima teaches an erasure voltage that erases the image displayed in col. 5, lines 43-52. It would have been obvious to one of ordinary skill in the art to include where the appropriate voltage is applied in each frame period in order to have smaller time periods for the driving to improve timing and display quality, and further to include where the appropriate voltage erases the image in each frame as taught by Majima into the liquid crystal display of Yamashita et al in order for improving uniformity of the display and images.

As to dependent claims 39 and 41, limitations of claim 38, and further comprising, Majima teach wherein erasure of the image in each frame period is affected by substantially blacking the liquid crystal panel (col. 5, lines 43-52, where a full erasure is performed, thus constituting blacking the liquid crystal panel).

Response to Arguments

3. Applicant's arguments filed May 18, 2009 have been fully considered but they are not persuasive.

Applicant argues the prior art of Yamashita do not teach sandwiching nematic liquid crystal between the two electrodes. Examiner, respectfully, agrees. The prior art of Majima teaches the use of nematic liquid crystal sandwiched between two electrodes. Applicant argues where the prior art of Majima do not teach a nematic liquid crystal, however since the liquid

crystal is a thermal liquid crystal, depending on temperature the LC will be of a different phase, such as from smectic to nematic. Thus, Majima teaches the nematic LC. The use of the nematic LC is advantageous as it has the optical properties of a uniaxial crystal. Applicant argues where Majima does not teach a complete erasure. Examiner respectfully, disagrees. Majima teaches erasing in col. 5, lines 43-52. Applicant argues where this erasure is not for each time period, however, Majima does not teach where the erasure is not for each time period. Majima specifically teaches a full erasure for the frame period as claimed. The prior art of Majima must erase the previous image prior to a new image for the display. Therefore the rejection is maintained and made FINAL.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to 3 whose telephone number is (571)272-7769. The examiner can normally be reached on 7:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Lefkowitz can be reached on 571 272 3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Srilakshmi K Kumar/
Primary Examiner
Art Unit 2629

SKK
August 07, 2009